



FOSTER WHEELER ENVIRONMENTAL CORPORATION

July 3, 1997

Mr. Randy D. Singer, Esq. Wilcox & Savage, P.C. 1800 NationsBank Center One Commercial Place Norfolk, Virginia 23510



Mr. Bradfute W. Davenport, Esq. Mays & Valentine
1111 East Main Street
P. O. Box 1122
Richmond, Virginia 23208

Subject:

RESULTS OF THE JUNE 1997 SAMPLING EVENT AT THE FORMER

NORFOLK MGP SITE

Dear Messrs. Singer and Davenport:

To support the expert witnesses understanding of potential groundwater contamination in the vicinity of the Former Norfolk MGP Site, the following activities were undertaken in June, 1997:

- 1. Six new permanent well points (PWPs) were installed in the area around the Spicer and Zed properties, north of the former Smiths Creek Channel. The six PWPs are designated as PWP-1, PWP-2, PWP-3, PWP 16, PWP-17, and PWP-18. Their locations are shown on the attached CAD drawing;
- 2. A portable gas chromatograph was used to perform field screening on groundwater samples collected from the newly installed PWPs;
- 3. Three rounds of groundwater level measurements were collected from the PWPs and from monitoring wells completed in the shallow water-bearing zone north of the former Smiths Creek Channel. In addition to the PWPs, groundwater measurements were collected from monitoring wells (MW) MW-32A, MW-33A, MW-34A, MW-35, MW-36. The three rounds of measurements were collected on June 11, 1997, using a Solinst Model #122. An additional round was collected from the MW only on June 10, 1997, using a Model ORS61, which proved not to be suitable for collecting measurements in the PWPs.
- 4. Rouse-Sirine Associates of Virginia Beach, the company that performed surveying during previous investigations, was retained to survey the newly installed PWPs as

- well as monitoring wells installed in March, 1997, using established site benchmarks.; and
- 5. Groundwater samples were collected from deep monitoring wells MW-32B, MW-33B, MW-34B, and MW-19B (background) and submitted to Quanterra Laboratories for analysis of for Total cyanide using mwthod SW846 9012 (the same method used for samples collected in March, 1997) and Free cyanide using method 4500-CN-I.

Results of these activities are included in this package, as follows:

- A CAD file on a 3.5-inch floppy disk prepared by Rouse-Sirine Associates showing surveyed locations and elevations of PWPs and MWs installed in June and March, 1997. A hard copy of the CAD file is also included;
- A table containing results of portable gas chromatograph analysis of groundwater collected from the PWPs intalled in June, 1997;
- Results of analysis of groundwater from deep monitoring wells MW-32B, MW-33B, MW-34B, and MW-19B (background), for Total and Free Cyanide, as reported by Quanterra Laboratories; and
- Water level data sheets containing results of the three rounds of measurements collected on June 11, 1997, and the one round collected on June 10;

If you have any questions, please call me at (301) 429-2116.

Very truly yours,

Anne P. LeHuray, Ph.D.

Project Manager

cc: Steve Shaw, Virginia Power

Soil Heau Space Analysis

Sample ID	Sample Mass (g)	Injection	Total Results BTX (ppb)	Total Unknown	Approx Unknown Conc (ppb)	Normalzed BTX	Normalzed total	Notes
Įio	Mass (g)	voi (ui)	DIV (bbn)	VSEC	Conc (ppb)	DIX	iotai	Notes
NGP-PWP1	24,6	30	7.517	0	0	2.0371274		Possible carry over from std, but unlikely.
NGP-PWP2	21.9	40	12.48	0	0	2.8493151		Possible carry over from std, but unlikely.
NGP-PWP3	25.2	40	0	0	0	0	0	Smll pks, not quantified.
NGP-PWP16	29.4	40	0	0	0	0	0	No peaks.
NGP-PWP17	24.2	40	0	0.166	6.58969697	0	1.361508	Small, later peak.
NGP-PWP18	28.1	40	7686	3331.1	132234.576	1367.6157	24896.9	Hit
NGP-PWP18	28.1	10	302.69	12.8724	606.385273	215.43772	647.0287	Hit



Page 1

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The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Foster Wheeler

MAP SITE

Date Reported: 6/26/97

PAGE

REPORTING ANALYTICAL RESULT LIMIT UNITS METHOD PARAMETER

Client Sample ID: MW-32B-01

Lot #: A7F120139

Sample #: 001 Date Sampled: 06/10/97 16:35 Date Received: 06/11/97 Matrix: WATER

In Review Inorganic Analysis 0.12 0.020 mg/L SM18 4500-CN-I Free Cyanide 0.20 1.3 mg/L SW846 9012 Total Cyanide

Client Sample ID: MW-33B-01

Date Sampled: 06/10/97 16:00 Date Received: 06/11/97 Matrix: WATER Sample #: 002

Inorganic Analysis In Review Free Cyanide 0.086 0.010 ma/L SM18 4500-CN-I Total Cyanide 0.58 0.10 mg/LSW846 9012

Client Sample ID: MW-34B-01

Date Sampled: 06/10/97 17:50 Date Received: 06/11/97 Matrix: WATER Sample #: 003

In Review Inorganic Analysis 0.11 0.020 mg/L SM18 4500-CN-I Free Cyanide 0.65 0.10 mq/L Total Cyanide SW846 9012

Client Sample ID: MW-19B-01

Date Sampled: 06/10/97 15:25 Date Received: 06/11/97 Matrix: WATER Sample #: 004

Inorganic Analysis In Review mg/L ND 0.010 Free Cyanide SM18 4500-CN-I Total Cyanide ND 0.010 mg/L SW846 9012



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Page <u>1</u> of <u>3</u>

Site Mafalk Map rite Project Number 17.700000000002 Date: 6/11/97

Water Level Meter: Make/Model # Solinist Serial Number 122001006

Well Number	Time	Depth to Water	Reference
PWP-18	1048	4.54 (Jt)	Top of casing
PWP-17	10 57	5-41	(Toc)
MW-36	1106	3.97	
MW-35	11.16	2/16 2.69	
PHP-1	1129	4.51	
PWP-2	11 33	2.70	
PWP-3	11 53	3. 79	
MW-33A	1141	4.96	<u> </u>
Mw-32A	1147	5.07	
PWP-16	1201	2.51	
MW-34 A	1207	7.21 4	<u> </u>
		<u> </u>	
MOTE:- None		l wdicated.	presente of
ary	free pro	duct.	



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Page 2 of 3

Date: 06/11/97

Water Level Meter: Make/Model # Soliwit 122 Serial Number 122 001006

Well Number	Time	Depth to Water	Reference
PNP-18	1326	4.53 (dr)	lop of Caring
PWP-17	1333	5-39	(70C)
MW-36	1338	3.99	
MW-35	1344	2-68	
PmP-1	13 47	4.54	
PWP-2	13 53	2.71	
PWP-3	1406	3.78	
Mw-33A	1358	4.94	
MW-32A	1403	5.06	
PnP-16	1409	2.50	
Mw - 34 A	1412	7.19 🔻	<u> </u>
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Page $\underline{3}$ of $\underline{3}$

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Date: 06/11/97 Site Mof like Project Number 17.70000 0000 2

Water Level Meter: Make/Model # Solimat #122 Serial Number 12200106

Well Number	Time	Depth to Water	Reference
PWP-18	1626	4.53 (H)	lef of Cosing
PWP-17	1623	5.39	(Tac)
Mw-36	1728	3.99	
Mw - 35	1639	2.69	·
PWP-1	1633	4.54	
Pril-2	1657	2.71	
PWP-3	1714	3.76	
MW-33A	1704	4.95	
Mw-32A	1646	5.06	
PWP-16	1651	2.50	
Mw-34 A	1720	7.21	
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Page 1 of 1

Date: 06 / 10 /97

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Site Marsite Project Number 1707 0000 0000 00002

Water Level Meter: Make/Model # ORS 6: Serial Number 060 - 22-28

Well Number	Time	Depth to Water(H)	Reference
MU 32 A	1134	5-02	Toc Etopop
MW 32B	1139	5-80	Coming / Riser Pipe]
MW 33 B	11 57	6.51	
Mw 33 A	1201	4.95	
MW34B	1209	8.58	
Mw 34 A	1212	7.15	
MW 19 A	1224	5:19	
MW 19B	1226	9-81	<u> </u>
MOTE: Nome	2- the Monet	oring well in	licated presence
3		product.	
			-
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